(*Deschampsia cespitosa*) and Bearded Couch (*Elymus caninus*). Some plants are close to a path and in the past have just been assumed, without thought to be *B. ramosus* (Hairy Brome) which is of widespread occurrence in the reserve and for which there are 27 quadrant records in the vice-county.

We have consulted all the Scottish Floras and Checklists at our disposal and found records only in the *Checklist of the Plants of Perthshire* (Smith *et al.* 1992). They report that the plant occurs in Mid and E. Perth VCs 88 & 89, and instance such well known sites as Keltneybum, Birks of Aberfeldy, gorge near Craighall and Killiecrankie

The plant is included in *Scarce Plants in Britain* (Stewart *et al* 1994), a Nationally Scarce Species in Britain being defined as being recorded in 16-100 10km squares. The publication gives five records for Scotland (VCs 88 and 89) and 29 for England and Wales. The author of the report in that publication (Newton) states that *B. benekenii* is largely confined to woods on shallow chalk, limestone or other calcareous soils in steep valleys, growing in small to medium patches and best on a gentle slope. He stated further, that it is a little known and probably under-recorded species which several competent recorders have found difficult to distinguish from *B. ramosa* with which it sometimes grows. Stace (1997) has also written that it is probably an overlooked species. In general, these criteria apply to its Falls of Clyde occurrence. In a Scottish context it is the rarest species in the reserve.

The Rev John Lightfoot travelled in Scotland in 1772 and subsequently wrote *Flora Scotica* published in 1777. He referred to the "famous falls" and "celebrated falls" and repeatedly mentioned Corra Linn (with different spellings!), listing some of the plant rarities. This area, together with the falls at Bonnington and Stonebyres became well known for their flora in the 19th century (Mackechnie 1958). The precise locality has, therefore, attracted attention, both from the scenic and botanical aspects for well over 200 years.

We will now look more closely at colonies of "*B. ramosus*" in similar sites in Lanarkshire!

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PREDATOR/PREY RELATIONSHIPS IN AN URBAN ENVIRONMENT.

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The pyramid of numbers in any ecosystem is such that there are many organisms at the bottom of the pyramid – the photosynthetic primary producers, progressively fewer as one moves upwards through the secondary producers – the herbivores, and very few at the top of the pyramid – tertiary producers or the carnivores (Elton, 1927; Wynne Edwards, 1962). In a natural ecosystem away from the immediate impact of man the primary producers are the grasses, flowering plants and trees, the secondary producers are often grazing organisms such as deer, gazelles, wild goats, and giraffes (Krebs, 1972; Ricklefs, 1973). The top-level carnivores include the lions, wildcat, eagles and so on. Man imposes a pattern on this by agricultural practice that is expressed to an even greater degree by the construction of villages towns and cities.

The city environment is the oddest ecosystem for any wild plant or animal. Much of it is made of buildings, there are many roads, and the gardens are often so well organised that they are semi-deserts as far as many of our natural flora and fauna are concerned. The top predators are clearly ourselves, but a number of other animals that sit at or near the top of the ecological pyramid have managed to intrude. These include urban foxes, cats – feral or domestic, magpies, and to a lesser extent dogs. So any records of top predators and their interactions with other animals in towns and cities are really very important in enabling us to understand how our somewhat unusual city environment functions in an ecological sense.

We record here two such instances. The first was an avian interaction. It involved three species of birds - the Kestrel, the pigeon and the magpie. The second involved a mammalian avian confrontation. It involved magpies and squirrels, which occurred four years ago..

On the morning of a Saturday in April, 2003, we witnessed an incident outside our ground floor kitchen window at The Mews, 2 Prince Albert Road, Dowanhill, Glasgow. A large bird hit another bird in flight, and then landed in the overhang outside our front door. It was possible to view and photograph the bird through the glass of the front door. It was a Kestrel with a newly killed young pigeon in its claws. The pigeon was photographed. It had the whole of its under surface ripped, with exposure of the two pectoralis major muscles. These are the two muscles attached between the sternum and the humerus bone of the wings, one on each side. They produce the downbeat of the wing that allows a bird to fly. For those nonvegetarians

amongst us, they are also very good eating. Clearly the impact of the Kestrel with the pigeon in flight had killed the pigeon instantaneously The Kestrel left the dead pigeon momentarily, jumped onto a wooden half barrel containing earth, and began to clean its beak on the wood. At that point it saw us and flew off, leaving the dead pigeon on the ground. About fifteen minutes later another bird was seen through the kitchen window. This time it was a magpie that had alighted and begun to eat the dead pigeon. The magpie was encourage to leave, and the dead pigeon put in a polythene bag and hidden under a wood display under the overhang. The bag remained there until darkness fell. However it disappeared overnight. Presumably this was a fox or feral cat.

The kestrel incident, besides being extremely interesting in terms of an urban siting of a highland bird in the city, shows how top predators such as the kestrel, the magpie, and presumably a fox or cat, compete for meat in an urban environment. Interestingly enough, kestrels are now fairly common in Glasgow, and kestrels and sparrow hawks are known to nest on the University campus (personal communication - James Munro).

The second example is interesting because it is an interaction between a mammal and a bird. During October 1998 on the University of Glasgow campus, two magpies were observed attacking two squirrels. The attack developed as follows. The two magpies attacked a single squirrel in a nest on a whitebeam outside the West Medical Building on the main university campus. The nest was about 15 to 20 metres above the ground. The attack involved considerable noise, which first drew the attention of the observer to the event. The noise consisted of screeches and flapping wings. A second squirrel then appeared, apparently from the nest, and joined in the fray. The confrontation between the magpies and the squirrels lasted for about 15 minutes. The magpies eventually ceased attacking and flew off. The squirrels appeared to go back into the nest. The nest was probably a crows nest. The question is what were the squirrels and magpies fighting over, in other words what was in the nest? It is possible that the magpies were using the nest to rear their young, whereupon the squirrels were presumably attempting to prey on the young of the magpie. The other alternative is that the nest may have been used as a dray by the squirrels, in which case the magpies were attempting to prey on young squirrels, and the two adult squirrels were protecting their offspring. Neither alternative is entirely convincing, as autumn is not a time that is normally associated with the breeding of magpies or squirrels.

These two sets of observations on top predators and their activities in a city environment show how important aspects of an animal's predator/prey status can be easily recorded. They also provide good evidence of the way in which the species interact with each other, and indicate that much research is needed on the role of animals such as these in urban environment.

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GREAT SPOTTED WOODPECKERS FEEDING ON THE NECTAR OF RED-HOT POKERS

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During the warm and sultry weather experienced in early July 2001, A. & D. MacFadyen drew my attention to a family group of Great Spotted woodpeckers *Dendrocopos major* repeatedly visiting a tall clump of South African red-hot pokers *Kniphofia uvaria* in a west Stirlingshire garden. Both adults and a least one juvenile would individually alight on one of the rigid stems of the plant, just below the large flowering head. Binoculuar observations at close quarters showed that the woodpeckers were drinking droplets of nectar from the pendant perianth tubes of the open yellow flowers. Each bird would spend several minutes working its way around a flower head before moving on to the next, occasionally pausing to pick-off and eat an insect which had also been attracted to the feast. Subsequent enquiry produced a similar record of Great Spotted woodpeckers nectar-feeding on Red-hot pokers at Blackhall, Edinburgh, in the summer of 1999 (D. R. McKean, *pers comm.*)

Great Spotted woodpeckers drinking the sap oozing out of the bark of trees in spring are well documented in northern Europe (Cramp *et al.* 1985), but taking advantage of the availability of sugar-rich nectar from a cultivated herbaceous flower in summer is behaviour that appears to have been little observed in the species.

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HAECKELIAN RADIOLARIAN MATERIAL AND THE MICROSCOPICAL SOCIETY OF GLASGOW

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It is a pleasure to put on record the recent receipt of a box of historic microscope slides most kindly donated to the University Marine Biological Station